

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/14553

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A23L1/03 A23L1/30 C12N9/82 C12N9/80

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A23L C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, EMBL

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	WO 2004/026043 A (PROCTER & GAMBLE) 1 April 2004 (2004-04-01)  page 3, line 25 -page 4, line 7; claims 1-11 examples 1-5 ---	1-12, 14-16, 18-22, 24-30
E	WO 2004/032648 A (HELDT-HANSEN HANS PETER ;JENSEN MORTEN TOVBORG (DK); STRINGER MARY) 22 April 2004 (2004-04-22). claims 1-50; figures 1,2 page 3, line 21 -page 6, paragraph 5 --- -/--	1-9, 30

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

11 May 2004

Date of mailing of the international search report

04/06/2004

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE EMBL 'Online!  27 January 1994 (1994-01-27)  ATKINSON ET AL.: "Production of  L-asparaginase"  Database accession no. A14577  XP002279377  The nucleic acid sequence is 60% identical  to SEQ ID No 1 in an overlap of 655  nucleotides.  the whole document</p>	<p>10,  14-16,  18-22,  24-28</p>
X	<p>US 5 310 670 A (GOWARD CHRISTOPHER R)  10 May 1994 (1994-05-10)  Sequence SEQ ID No 1</p>	22, 24-28
X	<p>MOTTRAM ET AL.: "Brief Communications,  ACRYLAMIDE IS FORMED IN THE MAILLARD  REACTION"  NATURE, MACMILLAN JOURNALS LTD. LONDON,  GB,  vol. 419, 3 October 2002 (2002-10-03),  pages 448-449, XP002235161  ISSN: 0028-0836  the whole document</p>	1-9
X	<p>ANONYMOUS: "Mechanism(s) of Formation of  Acrylamide in Food: Background"  October 2002 (2002-10), XP002237515  Retrieved from the Internet:  &lt;URL:http://www.jitsan.umd.edu/Acrylamide/  WG1/WG1_Mech_BG_Paper.pdf&gt;  'retrieved on 2003-04-03!  Chapters I.B and IV.</p>	1-9
P,A	<p>FRIEDMAN M: "Chemistry, biochemistry, and  safety of acrylamide. A review"  JOURNAL OF AGRICULTURAL AND FOOD  CHEMISTRY, AMERICAN CHEMICAL SOCIETY.  WASHINGTON, US,  vol. 51, no. 16, 3 July 2003 (2003-07-03),  pages 4504-4526, XP002276620  ISSN: 0021-8561</p>	
P,A	<p>ZYZAK D V ET AL: "Acrylamide formation  mechanism in heated foods"  JOURNAL OF AGRICULTURAL AND FOOD  CHEMISTRY, AMERICAN CHEMICAL SOCIETY.  WASHINGTON, US,  vol. 51, no. 16,  28 June 2003 (2003-06-28), pages  4782-4787, XP002276619  ISSN: 0021-8561</p>	

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International application No.  
PCT/EP 03/14553

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-9, 29, 30

Process for the production of a food product involving one heating step, comprising the addition of asparaginase to limit the formation of acrylamide during said heating step.

2. Claims: 10-28

Asparaginase from *Aspergillus niger* and method for producing it.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/14553

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2004026043	A	01-04-2004	WO 2004026043 A1	01-04-2004
			US 2004058046 A1	25-03-2004
WO 2004032648	A	22-04-2004	WO 2004032648 A1	22-04-2004
US 5310670	A	10-05-1994	AT 135402 T	15-03-1996
			AU 647819 B2	31-03-1994
			AU 8280591 A	02-03-1992
			CA 2075289 A1	03-02-1992
			DE 69117956 D1	18-04-1996
			DE 69117956 T2	25-07-1996
			DK 541633 T3	22-07-1996
			EP 0541633 A1	19-05-1993
			WO 9202616 A1	20-02-1992
			JP 5508546 T	02-12-1993